

Careers in new-age biological avenues

CELL MATTERS Do you wish to pursue a career in biotechnology but are confused about the innumerable options? **Vijayaraghavan Pisharody** sheds some light on some of the options and their prospects

The art of choosing your career is a complicated science today. Especially in India, where many factors matter more than the individual's interest itself, selection of your dream course for a profession has always been a bone of contention. A conflict in interest is usually a war between society, parents and the individual. Like the conventional choices of engineering and MBBS promises a secure and lucrative offer for a lifetime, today there are a number of options to find your interest and yet have a promising pay with good job profile. Biotechnology is such a field gaining momentum with broad scope of opportunities to study and work and even foray into research possibilities that has a high pay package as well. Government has also shown an active interest in upgrading this industry, by bridging the gap of good work force

and presence of large brands in the field. So, how do the opportunities look so bright?

Many a horizons to explore

The stem cell market in India was valued at Rs 1 billion in 2013 and is assumed to grow further and reach Rs 2 billion by 2018. Recently, government has decided to bring out policy changes in the industry to draw more people in the industry. Even stem cell banking which sounded so much like rocket science few years back, has turned out to be a harmless alternative to treat various ailments.

There is space for special fellowship for students wanting to pursue stem cell research and regenerative medicine and at par with CSIR (Council of Scientific & Industrial Research). Also, activities that give exposure to budding researchers like



conducting hands-on workshop among graduates, undergraduates to spread awareness and create excitement. Making calendar changes and observing stem cell awareness day and designing campaigns around the same is also in the list. Even the number of postgraduate and PhD programmes in regenerative medicine are increasing in India. Institutes like Tata Institute of Fundamental Research and

Manipal School of Regenerative therapy are leaders in this field to provide adequate courses.

A promising job profile

Candidates interested in biology and particularly, stem cell technology would have an eventful day at this job. An ordinary day would look like people developing stem cells in a lab and then further scruti-

ny leads to specialise into particular types of cells, such as bone marrow derived stem cells.

Such cells are ready to be used for treatment on a person and stem cell treatment or therapy refers to introducing new adult stem cells into damaged tissue to treat a particular type of disease. The treatment may become popular in case of ailments like arthritis, CLI, Parkinson's disease, Alzheimer's' disease, diabetes etc. A researcher would go to the intense stages of study with regard to the development of such cells.

Attractive remuneration

Even the pay package that comes with biotechnology is an attractive offer with a fresher getting paid close to 5 lakh annually and the package soaring up to 14 lakh per annum for experienced professionals. The opportunities to work and study together is also a promising option in this field since research helps interested candidates pick up lessons while earning their worth. But number of premium institutes in the country at present is less, though many are coming up owing to the growth.

New therapies are a regular feature in this sector and is touted to be the next big thing in Bengaluru. In India, stem cell biology is emerging in both basic science and clinical applications. With a whopping number of pharmaceutical and biotechnology companies, stem cell institutions pioneering as research leaders in

this field, the opportunities for students are immense. From a doctor to researcher, this is one area that gives you ample chances to go out of your way and experiment with science.

Bengaluru is also the biotechnology hub in India and the immense potential lies in the industry owing to a lot of advancements through government and latest ventures. What has triggered the recent boom of this industry even more is also the Make in India campaign by PM Modi.

Even though companies in the industry are bringing up novel technologies in the treatment, it is extremely important to foster the atmosphere to attract investment from global players by making simplified regulatory framework, creating special economic zones with all necessary factors to support stem cell research and commercialisation.

When we look at the manpower in biotechnology sector, the global market is estimated to be \$16 billion by 2017 and India market is expected to reach \$16 million by then. The talent crisis is enormous and there is already a war for talents in this specific area and is expected to get even worse in the coming years. International brands are getting foreign talents at a very high cost. The 'Make in India' campaign has helped to create enough opportunities which will provide solid results. Hopefully, this regulatory action will attract more talents to this area.